Notice of Allowability	Application No.	Applicant(s)	
	10/600,273	GAO ET AL.	
	Examiner	Art Unit	
	Rakesh K. Dhingra	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Applicant's remarks dt. 6/6/06 to the Non-Final action (after RCE)*.

2. ☒ The allowed claim(s) is/are *1-30*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Rakesh K.Dhingra

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Edward A. Brown on 08/9/06.

The application has been amended as follows:

Claim amendments

Claims 1 and 8 have been amended (in underlines) as follows:

Claim 1. (Currently Amended) A multiple zone gas distribution apparatus for controlling temperature across a workpiece during processing, the apparatus comprising:

a chuck having a top face configured to hold a workpiece during processing, the chuck top face defining inner and outer zones between the top face of the chuck and the workpiece into which zone coolant gas may be admitted;

inner and outer zone feed lines adapted to feed the coolant gas to the inner and outer zones of the chuck;

a pressure and flow control system adapted to supply zone coolant gas to the feed lines with separate pressure for the inner and outer zones controlled to control the temperature across the workpiece; and

inner and outer zone bleed lines connected to the respective inner and outer

zone feed lines respectively between the pressure and flow control system and the chuck, the inner zone bleed line having a connecting line in fluid connection with the outer zone bleed line and a fixed orifice adapted to continuously bleed the pressure of the inner zone to the outer zone bleed line during processing of the workpiece, the inner zone bleed line having an evacuation valve which is adapted to bypass the fixed orifice for immediate inner zone evacuation, and the outer zone bleed line having an evacuation valve for pressure release, which is located upstream of the inner zone connecting line.

Claim 8.(Currently Amended) An apparatus for detecting dechucking in a multiple zone wafer cooling system, the apparatus comprising:

a chuck having a top face configured to hold a workpiece during processing, the chuck top face defining first and second zones between the top face of the chuck and the workpiece into which zone coolant gas may be admitted;

first and second zone feed lines adapted to feed the coolant gas to the first and second zones of the chuck;

a pressure and flow control system adapted to supply coolant gas to the feed lines with separate pressure for the first and second zones controlled to control the temperature across the workpiece; and

first and second zone bleed lines connected to the respective first and second zone feed lines respectively between the pressure and flow control system and the chuck, the first zone bleed line having a connecting line in fluid connection with the second zone bleed line and a fixed orifice adapted to continuously bleed the

pressure of the first zone to the second zone bleed line during processing of the workpiece, the first zone bleed line having an evacuation valve which is adapted to bypass the fixed orifice for immediate first zone evacuation; and

the second zone bleed line having an evacuation valve for pressure release, which is located upstream of the first zone connecting line; and

wherein the pressure and flow control system provides a signal indicating dechucking when the flow rate of the coolant gas increases more than a predetermined amount.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Claim 1: Closest prior art (US Patent No. 6,320,736 – Shamouillian et al) does not teach claim limitations interalia, "the inner zone bleed line having a connecting line in fluid connection with the outer zone bleed line and a fixed orifice -----" and "the outer zone bleed line having an evacuation valve for pressure release, which is located upstream of the inner zone connecting line".

Claim 8: Closest prior art (US Patent No. 6,320,736 – Shamouillian et al) does not teach claim limitations interalia, "the first zone bleed line having a connecting line in fluid connection with the outer zone bleed line and a fixed orifice -----" and "the second zone bleed line having an evacuation valve for pressure release, which is located upstream of the first zone connecting line".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany

the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh K. Dhingra whose telephone number is (571)-272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rakesh Dhingra

Parviz Hassanzadeh
Supervisory Patent Examiner
Art Unit 1763